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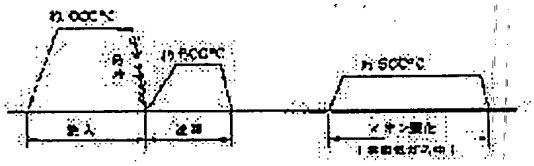
(54) BEARING STRUCTURE

(57)Abstract:
PROBLEM TO BE SOLVED: To strengthen the surface hardness of a roller shaft by conducting a plasma nitriding treatment or a physical vapor deposition process for the outer peripheral surface of a shaft body at a lower temperature than the tempering temperature of the shaft body.
SOLUTION: Tool steel (SKD) is used for a roller shaft, which is tempered at approx. 600° C after hardened at approx. 1000° C. Then a plasma nitriding treatment is conducted for the outer peripheral surface of the roller shaft at approx. 500° C, which is lower than the tempering temperature. By applying such a plasma nitriding treatemnt, it is possible to form the outer peripheral surface of the shaft body so as to have Vickers hardness of HV 950 or higher. High carbon steel (SUJ2) may be used for a roller shaft, tempered at approx. 200° C after hardened at approx. 800° C, and an ion plating processing may be then applied as a physical vapor deposition (PVD method) at a lower temperature than tempering temperature. By applying this shaft body to a cam-follower with roller for diesel engine, it is possible to markedly-reduce wear amount of the outer peripheral surface of the shaft body.



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(54)【発明の名称】　軸受け構造

(57)【要約】

【課題】　表面硬度を強化したローラ軸を有する軸受け構造を提供すること。

【解決手段】　円柱状に形成された軸体３にニードル軸受を介して回動可能にローラ４を嵌合配置し、該ローラ４外周側一側より変動負荷が付勢される軸受け構造において、前記軸体３の焼き戻し温度より低い温度にて前記軸体３の外周面をイオン窒化処理あるいは、物理蒸着法処理されたことを特徴とする。